

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0018] with the following paragraph:

[0018] In one implementation, FGS video 212 is not generated by distribution server 214, but rather only stored on the distribution server for subsequent transcoding and distribution to a client 208 as transcoded FGS video 204. (Hereinafter, the distribution server is often simply referred to as the “server”). In another implementation, the server generates FGS video 212 from one or more video files 216 using ~~well know~~ well-known video encoding techniques such as PFGS, MA-FGS, RFGS, and/or the like encoding techniques). Independent of how the FGS video 212 is obtained by the server 214, the FGS video 212 is encoded with a high HRGB value.

Please replace paragraph [0032] with the following paragraph:

[0032] The enhancement layer transcoding module 222 for PFGS video data input (e.g., please see encoded video data 302 of Fig. 3~~encoded video data 908~~) changes the high quality reference from $E_1^1, E_2^1, \dots, E_n^1$ to $E_1^2, E_2^2, \dots, E_n^2$ and generates the new enhancement layer bitstream (e.g., see bitstream 304 of Fig. 3). The best images can be decoded from the input bitstream are E_1, E_2, \dots, E_n . So using a new high quality reference 228, the signal to be coded is:

$$\begin{aligned}
 & E_i - MC(E_{i-1}^2) - b_i \\
 &= MC(E_{i-1}^1) + b_i + e_i - MC(E_{i-1}^2) - b_i \\
 &= MC(E_{i-1}^1 - E_{i-1}^2) + e_i.
 \end{aligned} \tag{4}$$

And $(E_i^1 - E_i^2)$ can be updated by:

$$\begin{aligned}
 E_i^1 - E_i^2 &= MC(E_{i-1}^1) + b_i + e_i^1 - MC(E_{i-1}^2) - b_i - e_i^2 \\
 &= MC(E_{i-1}^1 - E_{i-1}^2) + (e_i^1 - e_i^2)
 \end{aligned} \tag{5}$$

Accordingly, the enhancement layer transcoding module 222 does not decode base layer b_1, b_2, \dots, b_n , information to modify enhancement layer information.

Please replace paragraph [0036] with the following paragraph:

[0036] Enhancement layer bitstream transcoding architecture 400 avoids complex computations in the base layer. Furthermore, the memory footprint of the enhancement layer encoder is substantially small. There is just one frame buffer in the transcoder. But for the re-encoding case, at least ~~four frames buffers~~ four frame buffers are maintained for decoder's base layer and enhancement layer and encoder's base layer and enhancement layer respectively. The transcoder can change each macro-block's coding mode of the output bitstream to assist the error resilience or to reduce the drifting error. These aspects allow the enhancement layer transcoding module 222 to adjust a scalable bitstream's best working range by adjusting the streaming bitstream as a function of changes in network bit-rates/bandwidth.

Please replace paragraph [0040] with the following paragraph:

[0040] With reference to Fig. 6, an exemplary system for enhancement layer transcoding of FGS video includes a general purpose computing device in the form of a computer 610. The computer 610 is an exemplary implementation of the content distribution server 214 of Fig. 2 to produce and/or distribute video over a network to a client. Components of computer 610 may include, but are not limited to, one or more processing units 620, a system memory 630 ~~610~~, and a system bus 621 that couples various system components including the system memory to the processing unit 620. The system bus 621 may be any of several types of bus structures including a memory bus or memory controller, a peripheral bus, and a local bus using any of a variety of bus architectures. By way of example, and not limitation, such architectures include Industry Standard Architecture (ISA) bus, Micro Channel Architecture (MCA) bus, Enhanced ISA (EISA) bus, Video Electronics Standards Association (VESA) local bus, and Peripheral Component Interconnect (PCI) bus also known as Mezzanine bus.

Please replace paragraph [0042] with the following paragraph:

[0042] Communication media typically embodies computer readable instructions, data structures, program modules or other data in a modulated data signal such as a carrier wave or other transport mechanism and includes any information delivery media. The term “modulated data signal” means a signal that has one or more of its characteristics set or changed in such a manner as to encode information in the signal. By way of example, and not limitation, communication media includes wired media such as a wired network or direct-wired connection, and wireless media such as acoustic, RF, infrared and other wireless media.

Combinations of the any of the above should also be included within the scope of computer readable media. System memory 630 ~~memory 610~~ includes computer storage media in the form of volatile and/or nonvolatile memory such as read only memory (ROM) 631 and random access memory (RAM) 632.

Please replace paragraph [0051] with the following paragraph:

~~[0051] — The following references [1] [3] are hereby incorporated by reference.~~

[1] H.-C. Huang, C.-N. Wang, T. Hao, "A robust fine granularity scalability using trellis-based predictive leak," IEEE Trans. on CSVT, June 2002.

[2] W.-H. Peng and Y.-K. Chen, "Mode-Adaptive Fine Granularity Scalability," in Proc. of IEEE ICIP, vol. 2, pp. 993-996, Oct. 2001.

[3] Y. He, F. *Wu*, S. Li, Y. Zhong, S. Yang, "H.26L-based fine granularity scalable video coding," ISCAS 2002, Scottsdale, Arizona, May 26-29, 2002.